

KARAPETYAN, Sh. A.

5

Synthesis of higher  $\alpha, \beta, \gamma, \delta$ -tetrachloroalkanes and I.T.T. trichloroalkanes. A. N. Nesmeyanov, Sh. A. Karapetyan and R. Kh. Frelidina (Inst. Hetero-org. Compounds, Acad. Sci. U.S.S.R., Moscow) Doklady Akad. Nauk SSSR 240:104, 1979, 104, 105, 106, 107, 108, 109, 110, 111, 112, 113, 114, 115, 116, 117, 118, 119, 120, 121, 122, 123, 124, 125, 126, 127, 128, 129, 130, 131, 132, 133, 134, 135, 136, 137, 138, 139, 140, 141, 142, 143, 144, 145, 146, 147, 148, 149, 150, 151, 152, 153, 154, 155, 156, 157, 158, 159, 160, 161, 162, 163, 164, 165, 166, 167, 168, 169, 170, 171, 172, 173, 174, 175, 176, 177, 178, 179, 180, 181, 182, 183, 184, 185, 186, 187, 188, 189, 190, 191, 192, 193, 194, 195, 196, 197, 198, 199, 200, 201, 202, 203, 204, 205, 206, 207, 208, 209, 210, 211, 212, 213, 214, 215, 216, 217, 218, 219, 220, 221, 222, 223, 224, 225, 226, 227, 228, 229, 230, 231, 232, 233, 234, 235, 236, 237, 238, 239, 240, 241, 242, 243, 244, 245, 246, 247, 248, 249, 250, 251, 252, 253, 254, 255, 256, 257, 258, 259, 260, 261, 262, 263, 264, 265, 266, 267, 268, 269, 270, 271, 272, 273, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 285, 286, 287, 288, 289, 290, 291, 292, 293, 294, 295, 296, 297, 298, 299, 300, 301, 302, 303, 304, 305, 306, 307, 308, 309, 310, 311, 312, 313, 314, 315, 316, 317, 318, 319, 320, 321, 322, 323, 324, 325, 326, 327, 328, 329, 330, 331, 332, 333, 334, 335, 336, 337, 338, 339, 340, 341, 342, 343, 344, 345, 346, 347, 348, 349, 350, 351, 352, 353, 354, 355, 356, 357, 358, 359, 360, 361, 362, 363, 364, 365, 366, 367, 368, 369, 370, 371, 372, 373, 374, 375, 376, 377, 378, 379, 380, 381, 382, 383, 384, 385, 386, 387, 388, 389, 390, 391, 392, 393, 394, 395, 396, 397, 398, 399, 400, 401, 402, 403, 404, 405, 406, 407, 408, 409, 410, 411, 412, 413, 414, 415, 416, 417, 418, 419, 420, 421, 422, 423, 424, 425, 426, 427, 428, 429, 430, 431, 432, 433, 434, 435, 436, 437, 438, 439, 440, 441, 442, 443, 444, 445, 446, 447, 448, 449, 450, 451, 452, 453, 454, 455, 456, 457, 458, 459, 460, 461, 462, 463, 464, 465, 466, 467, 468, 469, 470, 471, 472, 473, 474, 475, 476, 477, 478, 479, 480, 481, 482, 483, 484, 485, 486, 487, 488, 489, 490, 491, 492, 493, 494, 495, 496, 497, 498, 499, 500, 501, 502, 503, 504, 505, 506, 507, 508, 509, 510, 511, 512, 513, 514, 515, 516, 517, 518, 519, 520, 521, 522, 523, 524, 525, 526, 527, 528, 529, 530, 531, 532, 533, 534, 535, 536, 537, 538, 539, 540, 541, 542, 543, 544, 545, 546, 547, 548, 549, 550, 551, 552, 553, 554, 555, 556, 557, 558, 559, 560, 561, 562, 563, 564, 565, 566, 567, 568, 569, 570, 571, 572, 573, 574, 575, 576, 577, 578, 579, 580, 581, 582, 583, 584, 585, 586, 587, 588, 589, 590, 591, 592, 593, 594, 595, 596, 597, 598, 599, 600, 601, 602, 603, 604, 605, 606, 607, 608, 609, 610, 611, 612, 613, 614, 615, 616, 617, 618, 619, 620, 621, 622, 623, 624, 625, 626, 627, 628, 629, 630, 631, 632, 633, 634, 635, 636, 637, 638, 639, 640, 641, 642, 643, 644, 645, 646, 647, 648, 649, 650, 651, 652, 653, 654, 655, 656, 657, 658, 659, 660, 661, 662, 663, 664, 665, 666, 667, 668, 669, 670, 671, 672, 673, 674, 675, 676, 677, 678, 679, 680, 681, 682, 683, 684, 685, 686, 687, 688, 689, 690, 691, 692, 693, 694, 695, 696, 697, 698, 699, 700, 701, 702, 703, 704, 705, 706, 707, 708, 709, 710, 711, 712, 713, 714, 715, 716, 717, 718, 719, 720, 721, 722, 723, 724, 725, 726, 727, 728, 729, 730, 731, 732, 733, 734, 735, 736, 737, 738, 739, 740, 741, 742, 743, 744, 745, 746, 747, 748, 749, 750, 751, 752, 753, 754, 755, 756, 757, 758, 759, 760, 761, 762, 763, 764, 765, 766, 767, 768, 769, 770, 771, 772, 773, 774, 775, 776, 777, 778, 779, 780, 781, 782, 783, 784, 785, 786, 787, 788, 789, 790, 791, 792, 793, 794, 795, 796, 797, 798, 799, 800, 801, 802, 803, 804, 805, 806, 807, 808, 809, 810, 811, 812, 813, 814, 815, 816, 817, 818, 819, 820, 821, 822, 823, 824, 825, 826, 827, 828, 829, 830, 831, 832, 833, 834, 835, 836, 837, 838, 839, 840, 841, 842, 843, 844, 845, 846, 847, 848, 849, 850, 851, 852, 853, 854, 855, 856, 857, 858, 859, 860, 861, 862, 863, 864, 865, 866, 867, 868, 869, 870, 871, 872, 873, 874, 875, 876, 877, 878, 879, 880, 881, 882, 883, 884, 885, 886, 887, 888, 889, 890, 891, 892, 893, 894, 895, 896, 897, 898, 899, 900, 901, 902, 903, 904, 905, 906, 907, 908, 909, 910, 911, 912, 913, 914, 915, 916, 917, 918, 919, 920, 921, 922, 923, 924, 925, 926, 927, 928, 929, 930, 931, 932, 933, 934, 935, 936, 937, 938, 939, 940, 941, 942, 943, 944, 945, 946, 947, 948, 949, 950, 951, 952, 953, 954, 955, 956, 957, 958, 959, 960, 961, 962, 963, 964, 965, 966, 967, 968, 969, 970, 971, 972, 973, 974, 975, 976, 977, 978, 979, 980, 981, 982, 983, 984, 985, 986, 987, 988, 989, 990, 991, 992, 993, 994, 995, 996, 997, 998, 999, 1000.

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G. M. Kosolapoff

KARAPETIAN, S. A., PETROVA, R. G., VASILYEVA, E. Y., SARGAKHIN, L. U., PRAYILINA, N. S.  
and NESMEYANOV, A. N.

"Polymerization of ethylene with telomers and a new synthesis of amino acids," a paper presented at the 9th Congress on the Chemistry and Physics of High polymers, 28 Jan-2 Feb 57, Moscow, Organic Chemistry Research Inst.

B-3,084,395

KARAPETYAN, S.H.

26-12-11/49

AUTHORS: Tsetlin, B.L., Candidate of Chemical Sciences, and Karapetyan, Sh.A., Candidate of Technical Sciences

TITLE: Chemical Effect of Ionizing Radiation (Khimicheskoye deystviye ioniziruyushchikh izlucheniye)

PERIODICAL: Priroda, 1957, No 12, pp 55-57 (USSR)

ABSTRACT: The article deals with the All-Union Conference on Radiation Chemistry which was held in March 1957 in Moskva by the Department of Chemical Sciences of the AN, USSR and the Ministry of Chemical Industry. In the discourses delivered, all theoretical and practical problems of major importance in this field were treated. A whole series of lectures was devoted to the effect of radiation on aqueous solutions of inorganic and organic substances. The method of electronic paramagnetic resonance was given special attention as enabling direct inquiry into the free radicals which play an important part in radiation processes. Great interest was aroused by lectures dealing with electro-chemical phenomena caused by radiation. Soviet scientists made an important discovery in this field. They established the principal possibility of converting radiation energy into electric power in radiative galvanic cells. Another topic

Card 1/2

KARAPETYAN, Sh.A., kand. tekhn. nauk.

The telomerization reaction and new synthetic materials. Priroda  
46 no.8:65-68 Ag '57. (MLRA 10:9)

1. Institut elementoorganicheskikh soyedineniy Akademii nauk SSSR,  
Moskva.

(Synthetic products) (Polymerization)

20-114 -3-27/60

AUTHORS: Karapetyan, Sh. A., Pichugin, L. A.

TITLE: The Production of Higher  $\alpha, \alpha, \alpha, \omega$ -Tetrachloralkanes on a Flow Set-Up (Polucheniye vysshikh  $\alpha, \alpha, \alpha, \omega$ -tetrakhloral-kanov v protochnoy ustanovke)

PERIODICAL: Doklady Akademii Nauk SSSR, 1957, Vol. 114, Nr 3, pp. 549-552 (USSR)

ABSTRACT: It has been proved before that a synthesis of higher tetrachloralkanes at an over-pressure of 100 - 150 at. superpressure is possible. Furthermore, the quantitative dependence of its content on pressure and the relative ethylene concentration was estimated. The present paper describes a flow set-up for the continuous production of these substances and the precise conditions for the performance of the process. The influence of temperature and time of reaction was studied in moving autoclaves with electroheating and water cover. Constant pressure was brought about by feed of ethylene in conformity with its consumption. Azodinitryl of the isobutyric acid (1 g/liter) was used as initiator. The tetrachloralkane mixture was separated in the vacuum by rectification. Table 1 and Figure 1 show the average figures relating to a large number of

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The Production of Higher  $\alpha, \alpha, \alpha, \omega$ -Tetrachloralkanes on a Flow Set-Up

repeated tests. From this it is made clear that at  $100^{\circ}\text{C}$  the reaction is practically terminated after 20 - 30 minutes, the conversion of  $\text{CCl}_4$  being considerably lower than at  $90^{\circ}\text{C}$ .

It was found that the composition of the tetrachloralkane mixture depends on temperature. An increase of temperature entails also an increase of the content of low ( $\text{C}_5$ ) at the expense of higher ( $\text{C}_9$  and  $\text{C}_{10}$ ) telomers. If the autoclave is charged at one time with the entire quantity of the initiator, it is not completely utilized, furthermore, temperature variations may occur by which the conversion is reduced. A gradual charge should create equal concentration of the initial radicals, assure fuller utilization of the initiator, and increase the conversion. This was proved by tests. The flow set-ups for telomerization described in scientific publications differ essentially in the manner of regression of non-thoroughly reacted ethylene into the reactor as well as in its structure. The results obtained in the course of these investigations were used for the creation of a new set-up, (Figure 2), which renders it possible to

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The Production of Higher  $\alpha, \alpha, \alpha, \omega$ -Tetrachloralkanes on a Flow Set-Up

distribute the dynamics of the process and the initiator equally into all sections in order to bring about a quiet course of reaction. It was here that the synthesis with the highest yield of the range  $C_9 - C_{15}$  was made. The content of ethylene in the reaction products was, according to analysis 41 % = 24,5 kg. This means a 3,5 % divergence from the charged quantity at a total loss of substance of 1,8 %. The composition of the telomeric mixture agrees well with the results of the autoclave tests. Moderate loss, good concordance of the ethylene balance, minor deviation of individual test results from the average demonstrate that in this set-up the synthesis of higher tetrachloralkanes is reproduced in a stable manner, also at pressure below 150 at. superpressure and in the case of an increased concentration of ethylenes and the initiator. There are 2 figures, 4 tables, and 6 references, 5 of which are Slavic.

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20-114 3-27/60

The Production of Higher  $\alpha, \alpha, \alpha, \omega$ -Tetrachloralkanes on a Flow Set-Up

ASSOCIATION: Institute for Elemental-Organic Compounds AS USSR and the  
Kaluga Combine for Synthetic Perfumes  
(Institut elementoorganicheskikh soyedineniy Akademii  
nauk SSSR i Kaluzhskiy kombinat sinteticheskikh dushistykh  
veshchestv)

PRESENTED: February 19, 1957, by A. N. Nesmeyanov, Member of the Academy

SUBMITTED: January 14, 1957

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SOV-26-58-11-2/49

AUTHOR: Karapetyan, Sh.A., Candidate of Technical Sciences

TITLE: Telomerization and New Synthetic Materials (Telomerizatsiya i novyye sinteticheskiye materialy)

PERIODICAL: Priroda, 1958, Nr 11, pp 9 - 16 (USSR)

ABSTRACT: The article describes the reaction of telomerization, by which it is possible to obtain various synthetic substances from simplest raw material. Among the institutions assisting in the development and materialization of the new method are the Institute of Elemental-Organic Compounds of the AS USSR, the Vsesoyuznyy institut iskusstvennogo volokna (All-Union Institute of Artificial Fibers), the Gosudarstvennyy institut azotnoy promyshlennosti (State Institute of the Nitrogen Industry, the Moskovskiy elektroliznyy zavod (Moscow Electrolysis Plant), the Vsesoyuznyy nauchno-issledovatel'skiy institut dushistykh veshchestv (All-Union Scientific Research Institute of Aromatic Substances), and the Kaluzh-

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Telomerization and New Synthetic Materials

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skiy kombinat sinteticheskikh dushistykh veshchestv (Kaluga Combine of Synthetic Aromatic Substances). A.N. Nesmeyanov, Associate of AS USSR, P.A. Moshkin and L.I. Burinova are mentioned in connection with work in this field. There are 6 tables, 2 graphs, 1 diagram, and 7 Soviet references.

ASSOCIATION: Institut elementoorganicheskikh soyedineniy AN SSSR/Moskva (Institute of Elemental-Organic Compounds of the AS USSR/Moscow).

1. Cyclic compounds--Synthesis 2. Synthetic fibers--Production

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KARAPETYAN, Sh. A.  
5(3)

PHASE I BOOK EXPLOITATION

SOV/2763

Freydlina, Rakhil' Khatskelevna, and Shavarsh Avetisovich Karapetyan,

Telomerizatsiya i novyye sinteticheskiye materialy (Telomerization and New Synthetic Materials) Moscow, Izd-vo AN SSSR, 1959. 103 p. 20,000 copies printed.

Sponsoring Agency: Akademiya nauk SSSR. Redkollegiya nauchno-populyarnaya seriya.

Ed. of Publishing House: O.M. Yenisherilova; Tech. Ed.: I.N. Guseva.

PURPOSE: This booklet is meant for the general reader who has a secondary school knowledge of the principles of chemistry and physics.

COVERAGE: The authors describe what is said to be a new method for the preparation of synthetic materials which is based on the reaction of telomerization. Cheap raw materials such as natural and industrial gases may be used in the production of new synthetic fibers, plastics, aromatic principles, and other industrial products. A detailed description is given of the manufacture and properties of "enant", a synthetic fiber which is said to have better

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Telomerization and New Synthetic (Cont.)

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properties than capron or nylon. The book is based on the results of research by several groups of scientists. R. Kh. Freydlina, Corresponding Member of the AS SSSR, wrote the section on telomerization and the chapter on Conversion of telomers. The other parts were written by Sh. A. Karapetyan. The author thanks G.L. Slonimskiy and T.I. Sheyn for their help in preparing the book. There are 7 references: all Soviet.

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Ten Chapters on Differential (Cont.)

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Ten Chapters on Differential (Cont.)

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AVAILABLE: Library of Congress (QA304.H75)

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LK/gap  
12-30-59

5 (3)

AUTHORS:

Nesmeyanov, A. N., Academician, SOV/20-127-2-30/70  
~~Karapetyan, Sh. A.~~, Vasil'yeva, Ye. I., Freydlina, R. Kh.,  
 Corresponding Member AS USSR

TITLE:

Separation and Properties of Higher  $\alpha, \alpha, \alpha, \omega$ -Tetrachloro Alkanes

PERIODICAL:

Doklady Akademii nauk SSSR, 1959, Vol 127, Nr 2, pp 345-347 (USSR)

ABSTRACT:

Telomer mixtures are formed in the ethylene telomerization with  $\text{CCl}_4$  from which the substances mentioned in the title were isolated and described in individual form. They contain up to 15 carbon atoms (Refs 1-3). The authors investigated the conditions of the vacuum rectification of these substances at a pressure of 0.2-0.5 mm and obtained pure telomers which have up to 23 C-atoms in one molecule. The rectification column used for this purpose is described. The mentioned tetrachloro alkanes were obtained from a telomer mixture from the plant of the Kaluzhskiy kombinat sinteticheskikh i natural'nykh dushistykh veshchestv (Kaluga Kombinat of Synthetic and Natural Aromatics) (Ref 5). The pressure amounted to 150 atmospheres absolute pressure and the molar ratio between ethylene and  $\text{CCl}_4$  was approximately 20 : 1.

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A technical telomer mixture always contains traces of metal

Separation and Properties of Higher  $\alpha, \alpha, \alpha, \omega$ -Tetrachloro SOV/20-127-2-30/70  
Alkanes

chlorides which accelerate the dehydrochlorination of tetrachloro alkanes, especially at 160° and higher temperatures (Ref 6). The calcined soda (5%) added during the distillation transforms the metal chlorides into less active basic salts. This reduces rapidly the catalytic decomposition of the tetrachloro alkanes. The isolation of telomers above C<sub>15</sub> is difficult even with an addition of soda. Therefore the tetrachloro alkanes were extracted by ethyl alcohol and acetone under utilization of their different solubility in organic solvents (Ref 2) after C<sub>5</sub> - C<sub>9</sub> had been distilled off. They contained the telomers C<sub>17</sub> and C<sub>25</sub>. Substances isolated in the first rectification were a second time distilled off on the same column in order to obtain the individual telomers (Table 1). Figure 1 shows the rules governing the changes of boiling temperature for the entire series of tetrachloro alkanes from C<sub>5</sub> - C<sub>25</sub>. Figure 2 gives in a diagram the dependence of the densities and the molar volumes on the molecular weight of these substances. The molar volumes of the mixtures of tetrachloro alkanes are additive within a wide range. Their

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Separation and Properties of Higher  $\alpha, \alpha, \alpha, \omega$ -Tetrachloro Alkanes SOV/20-127-2-30/70

viscosity was determined only for lower telomers (Ref 7) (Table 1, Fig 3 - determinations of L. M. Shulov). Yu. P. Chizhov carried out the fractionated distillation (Fig 4) in the determination of the physical constants (Table 1). There are 4 figures, 2 tables, and 8 references, 6 of which are Soviet.

ASSOCIATION: Institut elementoorganicheskikh soyedineniy Akademii nauk SSSR (Institute of Elemental Organic Compounds of the Academy of Sciences, USSR)

SUBMITTED: May 9, 1959

Card 3/3

81598

S/062/60/000/04/03/006  
B004/B066

5.3700C

AUTHORS: Freydlina, R. Kh., Chukovskaya, Ye. Ts., Karapetyan, Sh. A.,  
Nesmeyanov, A. N.

TITLE: Thermal Telomerization<sup>1</sup> of Olefins<sup>1</sup> With Silanes

PERIODICAL: Izvestiya Akademii nauk SSSR. Otdeleniye khimicheskikh nauk,  
1960, No. 4, pp. 662 - 668

TEXT: In previous papers (Refs. 1 - 3) it was proved that olefins are thermally telomerized with compounds containing a Si-H bond. The reaction proceeds according to the scheme:



The first experiments were performed in steel autoclaves. Since it was supposed that the metallic walls act as catalyst, the experiments were repeated in sealed glass tubes at 320 - 340°C and 50 atm. As may be seen from the data in Table 1, the results were the same as in the steel autoclaves. The thermal telomerization thus takes place without initiators

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Thermal Telomerization of Olefins With  
Silanes81598  
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B004/B066

or catalysts but is initiated by dissociation of the silane at the Si-H bond. The present paper reports on the influence of temperature and ethylene concentration upon the telomerization of  $C_2H_4$  with methyl-dichloro silane<sup>1</sup> (Table 2, Fig. 1). The same laws hold as for the telomerization of  $C_2H_4$  with  $CCl_4$  and  $CHCl_3$  (Refs. 4 - 6). With increasing  $C_2H_4$

content of the initial mixture the amount of low-boiling telomers decreases, that of the higher-boiling increases, in which connection the content of each component passes a maximum. The data in Table 3 show that the reaction rate increases with increasing temperature. At 100 atm and 320 - 350°C a conversion of 60 - 80% is attained within 5 - 10 min. With rising temperature the content of low telomers decreases, that of higher telomers increases (Fig. 2). The experimental part describes the following reaction: 1)  $C_2H_4$  with  $CH_3SiCl_2H$ . Methyl-ethyl-dichloro silane and methyl-n-butyl-dichloro silane were obtained. 2)  $C_2H_4$  with  $(C_6H_5)_3SiH$ .

Triphenyl-ethyl-silane confirmed by infrared spectra and triphenyl-n-butyl-silane resulted, further a residue from  $(C_6H_5)_3SiOSi(C_6H_5)_3$ .

3)  $C_3H_6$  with  $CH_3SiCl_2H$  in the presence of  $H_2PtCl_6$  at room temperature.

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S/030/60/000/007/006/011  
B016/B058

5.3830

AUTHORS: Freydlina, R. Kh., Corresponding Member of the AS USSR,  
Vasil'yeva, Ye. I., Candidate of Chemical Sciences,  
Karapetyan, Sh. A., Candidate of Technical Sciences

TITLE: Telomerization Reaction and New Synthetic Materials

PERIODICAL: Vestnik Akademii nauk SSSR, 1960, No. 7, pp. 49-57

TEXT: Soviet scientists have contributed much to the study of the telomerization reaction which is one of the production methods of new, highly synthetic materials. The USSR occupies a leading position in the use of this reaction for the purpose mentioned. The first industrial plant of the world is also being built here for this production. The authors call to mind the nature of the reaction mentioned. Such reactions can be initiated by radiation, radicals, or ions, the telomerization initiated by radicals being known best. The scheme

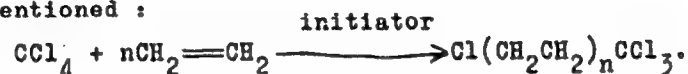
$XY + nCH_2=CH_2 \rightarrow X(CH_2CH_2)_nY$   
telogen taxogen telomer cannot reflect the whole complexity of the chain process under discussion. The authors describe the long

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Telomerization Reaction and New Synthetic  
Materials

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chain of chemical conversions, and give an equation expressing all stages of the reaction mentioned :



As a rule, the same substances as used for polymerization are used to initiate telomerization, most frequently acyl- and alkyl-peroxides, azo compounds of the aliphatic series, organometallic compounds as well as ultraviolet light. The multitude of possibilities of synthesizing organic compounds by telomerization is further determined by the fact that various olefines, unsaturated compounds with functional groups, and various saturated compounds can be introduced into this reaction. The authors discuss the telomerization ability of individual compounds of the groups mentioned. All saturated compounds used for telomerization are joined by the authors into several types: 1) organic and inorganic halogen compounds; 2) organic compounds with an active hydrogen atom. The thoroughly investigated telomerization reactions with individual compounds are listed. Moreover, the use of telomers is discussed, and some problems of synthesis are mentioned, which can be solved by telomerization. The synthesis of mono-, di-, and polyfunctional compounds is

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## Telomerization Reaction and New Synthetic Materials

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explained next. The compounds synthesized from tetrachloro alkanes and their applications are listed in Table 1. A new industrial production method for Soviet synthetic fibers was elaborated by a team of several scientific institutions and industrial establishments under the guidance of A. N. Nesmeyanov. The following institutes contributed most: The Institut elementoorganicheskikh soyedineniy Akademii nauk SSSR (Institute of Elemental-organic Compounds of the Academy of Sciences USSR), Gosudarstvennyy nauchno-issledovatel'skiy i proyektnyy institut azotnoy promyshlennosti i organicheskogo sinteza (State Scientific Research and Planning Institute of the Nitrogen Industry and Organic Synthesis) including its Dzerzhinsk Branch, and the Vsesoyuznyy nauchno-issledovatel'skiy institut iskusstvennogo volokna (All-Union Scientific Research Institute of Synthetic Fibers). Fig. 1 shows a scheme of a continuously operating apparatus for the production of tetrachloro alkane  $\text{Cl}(\text{CH}_2\text{CH}_2)_n\text{CCl}_3$ . Among the cellulose polymers, the manufacture of polyamides is gaining ever-increasing importance. Table 2 shows rules governing the change of the composition of telomers and Table 3 the properties of various fibers. The dependence of the content of tetrachloro alkane on the ethylene concentration may be seen from Fig. 2. There are 2 figures, 3 tables, and 5 Soviet

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Telomerization Reaction and New Synthetic  
Materials

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KARAPETYAN, Sh. A.

PHASE I BOOK EXPLOITATION

SOV/5630

Freydlina, Rakhil' Khatskelevna, Corresponding Member AS USSR, and Shavarsh Avetisovich Karapetyan

Telomerizatsiya i novyye sinteticheskiye materialy (Telomerization and New Synthetic Materials) Moscow, Izd-vo AN SSSR, 1961. 102 p. (Series: Akademiya nauk SSSR. Nauchno-populyarnaya seriya) 10,000 copies printed.

Ed. of Publishing House: O.M. Yenisherlova; Tech. Ed.: L.V. Yepifanova.

PURPOSE: This book is intended for the general reader interested in synthetic materials.

COVERAGE: The book describes a purportedly new method of producing synthetic materials with the aid of the telomerization reaction. The production and properties of enant fiber, which is superior to caprone and nylon in the authors' opinion, are described in detail. The reader is assumed to have a knowledge of chemistry through the high-school level. R. Kh. Freydlina wrote the section on telomerization and the chapter on telomer conversion. The authors thank G. L. Slonimskiy and T. I. Sheyn. There are 7 references, all Soviet.

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S/661/61/000/006/012/081  
D205/D302

AUTHORS: Freydlina, Nesmeyanov, A. N., Chukovskaya, Ye. Ts. and Karapetyan, Sh. A.

TITLE: Thermal telomerization of olefines with hydrosilanes

SOURCE: Khimiya i prakticheskoye primeneniye kremneorganicheskikh soyedeniy; trudy konferentsii, no. 6, Doklady, diskussii resheniye. II Vses. Konfer. po khimii i prakt. prim. kremneorg. soyed., Len., 1958. Leningrad, Izd-vo AN SSSR. 1961, 72-82

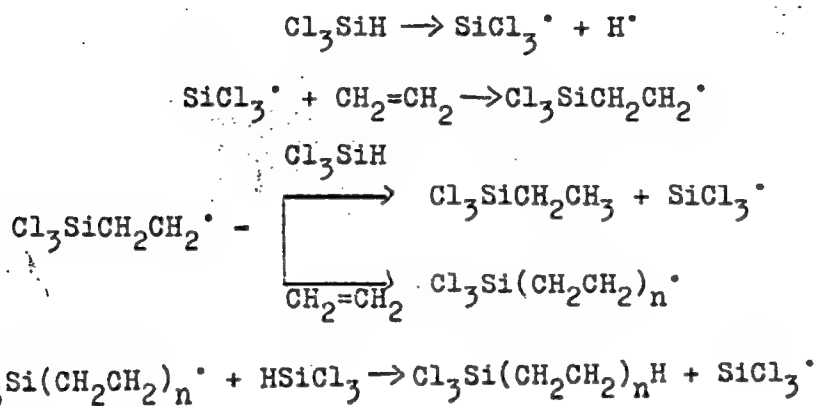
TEXT: The thermal telomerization of olefines with hydrosilanes is apparently a chain reaction since it leads to the formation of a mixture of telomer-homologues in conditions which exclude the reaction of lower telomers with olefines to give higher telomers. It was shown that the thermal telomerization takes place without the presence of initiators or catalysts. Thus triphenyl silane telomerizes with ethylene in an autoclave without any difficulty giving  $(C_6H_5)_3SiC_2H_5$  and  $(C_6H_5)_3SiC_4H_9$  among the reaction products. This

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Thermal telomerization ...

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suggests that the telomerization is initiated by the dissociation of the Si-H bond and proceeds according to



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Thermal telomerization ...

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D225/D302

Thermal telomerization gives higher conversions than that initiated chemically by azo-bis-iso-butyronitrile or benzoyl peroxide. The structure of the addition product of methyl dichlorosilane to propylene was investigated by spectroscopic methods showing that no iso-propyl methyl silane was formed. The influence of temperature, pressure and ethylene concentration in the thermal telomerization of ethylene with methyl dichlorosilane was studied. With the increase of ethylene concentration the content of the higher telomers increases. The velocity of the reaction is strongly accelerated by the temperature rise. At 150 atm. and 320 - 350°C, 60 - 80% are converted in 5 - 10 minutes. The temperature rise effects also the composition increasing the content of the lower telomers in the reaction mixture. However, application of thermal telomerization is limited by the decomposition of unsaturated compounds in the reaction conditions. Therefore, a series of catalysts was tried in the reaction:  $\text{HSbCl}_5$ ,  $\text{H}_2\text{SnCl}_6 \cdot 6\text{H}_2\text{O}$ ,  $\text{H}_2\text{PtCl}_6 \cdot 6\text{H}_2\text{O}$  and also  $\text{TiCl}_4$  and  $\text{ZrCl}_4$ . In the presence of  $\text{H}_2\text{PtCl}_6$  the reaction with ethylene and

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propylene takes place at room temperature giving only addition products. In the presence of  $ZrCl_4$ , the reaction between methyl dichlorosilane and ethylene proceeds at  $175 - 180^\circ C$  yielding 80 - 90% of methyl ethyl dichlorosilane. In the presence of  $H_2SnCl_6 \cdot 6H_2O$  or  $TiCl_4$ , ethylene and methyl dichlorosilane enter the telomerization reaction at  $200 - 220^\circ C$  giving telomers having 1,3  $(CH_2CH_2)$  groups and which are identical with those obtained in the thermal telomerization. A. L. Klebanskiy (VNIISK, Leningrad), V. S. Chugunov, D. N. Andreyev and M. G. Voronkov (IKhS AN SSSR, Leningrad), S. N. Borisov (VNIISK, Leningrad), G. I. Nikishin (IOKh AN SSSR, Moscow), V. O. Reykhsfel'd (LKhTI, Leningrad), V. F. Mironiv, (IOKh AN SSSR, Moscow), S. A. Golubtsov (Moscow) and V. A. Ponomarenko (IOKh AN SSSR, Moscow) took part in the discussion. There are 2 figures, 4 tables and 15 references: 12 Soviet-bloc and 3 non-Soviet-bloc. The references to the English-language publications read as follows: S. Nozakura and S. Konotsune, Bull. Chem. Soc. Japan., 29, 322, 326 (1957); S. Nozakura, Bull. Chem. Soc. Japan, ✓

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Thermal telomerization ...

S/661/61/000/006/012/081  
D205/D302

29, 660, 784, (1957); J. L. Speier, J. A. Webster and G. H. Barnes, J. Amer. Chem. Soc., 79, 974, (1957).

ASSOCIATION: Institut elementoorganicheskikh sovedineniy Akademii nauk SSSR, Moscow (Institute of Elemental Organic Compounds, Academy of Sciences USSR, Moscow)

Card 5/5 .

NESMEYANOV, A.N., akademik; FREYDLINA, R.Kh.; BELOV, V.N., prof.; KARAPET'YAN, Sh.A.; SMOL'YANINOVA, Ye.K.; SOLOV'YEVA, N.P.; OGORODNIKOVA, Ye.A.; VASIL'YEVA, Ye.I.; ZAKHARKIN, L.I.; SHEVYAKOVA, N.N.

Synthesis of macrocyclic lactones and oxalactones based on ethylene and carbon tetrachloride. Zhur. VKhO 5 no.4:371-376 '60.

(MIRA 13:12)

1. Chlen-korrespondent Akademii nauk SSSR (for Freydlina).  
(Lactones)

KARAPETYAN, Sh.A.; KRUGLOVA, N.V.; FREYDLINA, R.Kh.

Hydrolysis of 1,1,1-trihaloalkanes and 1,1-dihalo-1-alkene by  
water at 250-330°C. Izv.AN SSSR.Otd.khim.nauk no.2:307-311 F  
'63. (MIRA 16:4)

1. Institut elementoorganicheskikh soedineniy AN SSSR.  
(Paraffins) (Olefins) (Hydrolysis)

KARAPETYAN, Sh.A.; ENGLIN, B.A.; FREYDLINA, R.Kh.

Constants of chain transfer in the reaction of ethylene telemerization with carbon tetrachloride. Izv. AN SSSR, Ser.khim. no.7:1346-1348 J1 '63. (MIRA 16:9)

1. Institut elementoorganicheskikh soedineniy AN SSSR.  
(Ethylene)  
(Carbon tetrachloride)  
(Polymerization)

KARAPETYAN, Sh.A.; SHULOV, L.M.; Prinimal uchastiye LAVRINENKO, B.

Separation of mixtures of tetrachloro alkanes by the extraction method. Zhur. prikl. khim. 36 no.5:1016-1021 My '63.  
(MIRA 16:8)

1. Institut elementoorganicheskikh soyedineniy AN SSSR i  
Kaluzhskiy kombinat sinteticheskikh dushistykh veshchestv.  
(Pariffins) (Extraction (Chemistry))

KARAPETYAN, Sh.A.

Thermal stability of  $\alpha, \alpha, \alpha, \alpha$ -tetrachloro alkanes. Zhur.  
prikl. khim. 36 no.4:865-870 Ap '63. (MIRA 16:7)

1. Prinimali uchastiyet Sesyukina, Z.N.; Bogdanova, V.A.  
(Paraffins--Thermal properties)

KARAPET'YAN, Sh.A.; SEMENOV, N.A.

Preparation of higher  $\omega$ -chlorocarboxylic acids from  
 $\alpha, \alpha, \alpha, \omega$ -tetrachloro alkanes. Zhur. prikl. khim.  
37 no.9:2003-2007 S '64.

(MIRA 17:10)

1. Institut elementoorganicheskikh soedineniy AN SSSR.

L 44122-65 EPF(s)/EPF(n)-2/EPR/ENG(j)/EPA(s)-2/EPA(w)-2/EWA(h)/EWP(j)/EWT(m)  
EWP(1)/EWP(b)/E/EWA(1)/EWP(e) Pc-4/Pr-4/Ps-4/Pt-7/Pu-4/Pub-10/Pob WW/  
GG/2M/WH

ACCESSION NR: AP5012099

UR/0191/65/000/005/0003/0004

AUTHOR: Bessonov, A. I.; Vitushkin, N. I.; Glazunov, P. Ya.;  
Karapetyan, Sh. A.; Parfanovich, B. N.; Ryabchikova, G. G.;  
Yakubovich, A. A.

TITLE: Unit for gas-phase radiation-induced graft polymerization

SOURCE: Plasticheskiye massy, no. 5, 1965, 3-4

TOPIC TAGS: graft polymerization, gas phase graft polymerization,  
radiation induced graft polymerization

ABSTRACT: A pilot-plant unit has been built for producing various  
graft polymerization products (combining the advantages of the con-  
stituents) by the technique of gas-phase radiation-induced graft  
polymerization in quantities sufficient for technical testing. The  
unit is suitable for grafting polymer molecules to the surface of  
mineral powders and synthetic and mineral fibers, fabrics, and films  
by irradiating them with fast electrons in an atmosphere of gaseous  
monomer and inert gas. The unit is designed to operate either 1) with  
monomers whose boiling point is above room temperature (Fig. 1 of the  
Enclosure) or 2) with monomers which are normally gaseous. In the  
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L 44135-65

ACCESSION NR: AP5012099

first case, to prevent monomer vapor condensation in the reactor and the pipe, the liquid monomer temperature in the feed tank is always maintained 30—50C below the working gas temperature. In the second case, the gaseous monomer is fed directly from a pressure cylinder. Two reactor types are available: one specifically designed for fiber films, and fabrics, and the other, for powders. The experimental results shown in Table 1 of the Enclosure were in good agreement with results obtained in glass ampuls, indicating the feasibility and expediency of the scale-up of this process to full-scale plant equipment. "The authors express their appreciation to B. L. Tsetlin for participating in the discussion of the project and for valuable advice during startup, and to N. V. Mikhaylov, L. G. Tokareva, and Ye. V. Yegorov for valuable advice on design problems. Orig. art. has: 1 figure and 1 table. [SM]

ASSOCIATION: none

SUBMITTED: 00

ENCL: 02

SUB CODE: 00, CC

NO REF SOV: 005

OTHER: 000

ATD PRESS: 3246

Card 2/4

AVUNDZHYAN, E.S.; KARAPETYAN, S.A.

Effect of nitrogen combined with phosphorus on changes in the free amino acid and sugar composition of the tobacco plant. Izv. AN Arm. SSR. Biol. nauki 14 no. 4:7-18 Ap '61. (MIRA 14:4)

1. Botanicheskiy institut AN Armyanskoy SSR.  
(TOBACCO—FERTILIZERS AND MANURES) (AMINO ACIDS)  
(SUGARS)

KARAPETYAN, S.G.

Ignimbrite tuffs in Paleogene volcanic formations of Armenia.  
Izv. AN Arm. SSR. Geol. i geog. nauki 13 no.1:71-74 '60.  
(MIRA13:9)

1. Institut geologicheskikh nauk AN Armyanskoy SSR.  
(Armenia--Volcanic ash, tuff, etc.)

KARAPETYAN, S. G.

SHIRINYAN, K. G., KARAPETYAN, S. G.,

"Particularities of structure and petrology of volcanoes in the form of domes  
in Armenia"

Report to be submitted for the 13th General Assembly, Intl. Union of Geodesy  
and Geophysics (IUGG), Berkeley Calif., 19-31 Aug 63

SHIRINYAN, K.G.; ADAMYAN, A.A.; KARAPETYAN, K.I.; KARAPETYAN, S.G.

Some characteristics of the distribution of trace elements in the  
recent volcanic products of Armenia. Zap.Arm.otd.Vses.min.ob-va  
no.2:27-56 '63. (MIRA 16:10)

KARAPETYAN, S.G.

Dome-shaped volcanoes Artini and Atis. Izv. AN Arm. SSR. Nauki o  
zem. 17 no.3/4:79-95 '64. (MIRA 17:11)

1. Institut geologicheskikh nauk AN Armyanskoy SSR.

K H K H P E T Y H N. S. K.  
ZHURAVLEV, V.I.; KARAPETYAN, S.K.

Load factor of electrolytic cells. TSvet.met. 26 no.4:51-53  
Jl-Ag '53. (MIRA 10:10)  
(Electrolysis)

KARAPETIAN, S. K.

Electric melting of nickel sulfide ores at m...  
See S. K. Karapetian and...  
New York: 1964. 100 p.

100: 176, 912; 149, 023; 197.5 92.00

*Kombinat Severonikel*

KARAPETYAN, S.K.; GUKASYAN, M.M.

*Lactuca serriola* in Armenia and its food value [with summary in English]. Izv.AN Arm.SSR,Est.nauki no.2:39-52 '47. (MLRA 9:8)

1. Deystvitel'nyy chlen AN Arm.SSR. (for Karapetyan)  
(Armenia--Forage plants)

**KARAPETIAN, S.K.**

Toxicity of the hellebore *Veratrum lobelianum* Bernh. in Armenia.  
Izv.AN Arm.SSR.Est.nauki no.6:95-116 '47. (MLRA 9:8)

1. Deystvitel'nyy chlen AN Arnyanskoy SSR.  
(Armenia--Hellebore)

KARAPETYAN, S.K.

Effect of yeast on the laying of hens and hatching quality of eggs.  
Dokl. AN Arm. SSR 9 no.3:135-141 '48. (MIRA 9:10)

1. Deystvitel'nyy chlen Akademii nauk Armyanskoy SSR. 2. Insitut  
zhivotnovodstva Akademii nauk Armyanskoy SSR, Yerevan.  
(Yeast) (Poultry--Feeding and feeding stuffs)

KARAPETYAN, S.K.

Light - Physiological Effect

Experimental data on the effect of a differentiated light cycle on the reproductive and other internal organs of domestic fowl. Dokl. AN SSSR 86, No. 2, 1952.

Monthly List of Russian Accessions, Library of Congress, December 1952. Unclassified.

235T8

USSR/Biology - Spontaneous Transmutation - Sep/Oct 52

"The Generation of Hornbeam <sup>from</sup> ~~of~~ Hazelnut,"  
S. K. Karapetyan, Act Mem, Acad Sci Armenian SSR  
"Agrobiologiya" No 5, pp 23-29

Describes a 70-year-old hazelnut tree (Corylus avellana L.) growing in a state forest of Dilizhans, Armenian SSR. In the summer of 1949 one of the branches of this tree was identified as a hornbeam (Carpinus caucasicus A. Grossh) branch. Microscopic exam of various parts of the trunk revealed the typical structure of hazelnut, with a sharp demarcation between the 2 types of wood at the junction of the hornbeam branch. Authors state that there were no hornbeam trees in this forest. The article is supported by photographs and drawings of the microscopic analysis of both types of wood.

235T8

KARAPETYAN, S.K.

Ways of developing the breeding of fine-wooled sheep in the Armenian  
S.S.R. Izv. AN Arm. SSR. Biol. i sel'khoz. nauki. 5 no. 2: 3-34 '52.  
(MLRA 9:8)

1. Daystvital'nyy chlen Akademii nauk Arm. SSR.  
(ARMENIA--SHEEP)

KARAPETYAN, S.K.

Experimental data on the effect of differentiated light regimen  
on reproductive and other internal organs in domestic fowls.  
Doklady Akad. nauk SSSR 86 no. 2:445-448 11 Sept 1952. (GLML 23:3)

1. Active Member of the Academy of Sciences Armenian SSR. 2. In-  
stitute of Animal Husbandry, Ministry of Agriculture Armenian SSR.

KARAPETYAN, S.K.

Hazelnut (*Corylus avellana* L.) generated by hornbeam (*Carpinus caucasicus* A. Grossh). Izv.AN Arm.SSR,Biol.i sel'khoz.nauki. 5 no.11: 3-13 '52. (MLRA 9:8)

1. Deystvitel'nyy chlen Akademii nauk Armyanskoy SSR.  
(Hazel) (Hornbeam) (Transmutation of plants)

KARAFETYAN, S. K.

Sheep - Armenia

Developing the breeding of fine-wooled sheep in the Armenian S.S.R. Agrobiologiya,  
No. 1, 1952.

Deystvitel'nyy Chlen Akademii Nauk, Armyanskoy SSR, g. Yerevan.

SO: Monthly List of Russian Accessions, Library of Congress, June <sup>2</sup> 195~~3~~, Uncl.

KARAPETYAN, S.K.

New experimental data on the effect of a differentiated light regimen on the reproductive and other internal organs in poultry.  
Izv.AN Arm.SSR.Biol.i sel'khoz.nauki. 5 no.9:3-13 '52. (MLRA 9:8)

1. Deystvitel'nyy chlen Akademii nauk Armyanskoy SSR. 2. Institut zhivotnovodstva Ministerstva sel'skogo khozyaystva Armyanskoy SSR.  
(Light--Physiological effect) (Poultry)

KARAPETYAN, S.K.

New theories on the biological species, a creative development of Darwinism. Zhur.ob.biol. 14 no.3:229-237 My-Je '53.

(MIRA 6:6)

(Origin of species)

B

KARAPETYAN, S.K.

Effect of prolonged exposure to light on the biology of development and productivity of domestic fowl. Izv.AN Arm.SSR.biol.i sel'khoz.nauki 7 no.10:20-47 0 '54. (MLRA 9:8)

1. Deystvitel'nyy chlen AN Armyanskoy SSR.; 2. Institut shivotnovodstva Ministerstva sel'skogo khozyaystva Arm. SSR.  
(Poultry) (Light--Physiological effect)

KARAPETIAN, S.K.; PAVLOV, Ye.F.; AVAKYAN, H.A.

Some characteristics of conditioned reflex activity in domestic fowl effected by changes in the external environment. Dokl. AN Arm. SSR 18 no.5:151-156 '54. (MIRA 8:7)

1. Deystvitel'nyy chlen Akademii nauk Armyanskoy SSR. (for Karapetian)
2. Institut shivotnovodstva Ministerstva sel'skogo khozyaystva Armyanskoy SSR. (Conditioned response)

KARAPET'YAN, S.K.

Effect of prolonged light exposure on the lengthening of the  
biological and productive life of poultry. Dokl. AN SSSR 94  
no.3:585-588 Ja '54. (MLRA 7:1)

1. Deystvitel'nyy chlen Akademii nauk Armyanskoy Akademii nauk  
SSR.  
Institut zhivotnovodstva Ministerstva sel'skogo khozyaystva  
Armyanskoy SSR. (Poultry) (Light--Physiological effect)

**KARAPETIAN, S. K.**

Biological role of light in prolonging the productive life of domestic fowl. Izv. AN Arm. SSR. Biol. i sel'khoz. nauki 8 no. 6:3-14 Je '55. (MLRA 9:8)

1. Institut zhivotnovodstva Ministerstva sel'skogo khozyaystva Armyanskoy SSR.

(Light--Physiological effect)  
(Eggs--Production)

KARAPETTYAN, S.K. (Yerevan)

Role of prolonged exposure to the light in the increase of biological activity of the animal organism. Usp.sovr.biol. 39 no.1: 65-76 Ja-F '55. (MIRA 8:5)

(LIGHT--PHYSIOLOGICAL EFFECT)

EXCERPTA MEDICA Sec.3 Vol.10/8 Endocrinology Aug.56

1591. KARAPETYAN S.K. \*New facts about the gonad-stimulating influence of light DOKLADY AKAD.NAUK SSSR 1955, 103/3 (525-528) Graphs 1 Tables 1 Illus. 2 (Russian text)

The influence of light on the gonads was studied in animal experiments. It is reported that prolonged exposition to light has a favourable effect on the reproductive system and, moreover, on the total endocrine system and other organs. It is postulated that the physiological mechanism of the gonad stimulating effect of light must be explained by neurohumoral transmission in which the CNS plays a role of primary importance. ; ; Boerman - Oss

KARAPET YAN S.K.

USSR / Farm Animals. Poultry.

Q-4

Abs Jour: Ref Zhur-Bio., No 23, 1958, 105748.

Author : Karapetyan, S. K., Gukasyan, M. N.

Inst : Not given.

Title : Work for the Development of the Yerevan Breed  
of Hens.

Orig Pub: Ptitsevodstvo, 1956, No 7, 23-26.

Abstract: No abstract.

Card 1/1

KARAPETYAN, S.K.

Role of the paternal and maternal organisms in the hereditary  
transmission of their traits to the offspring. Izv. AN Arm.SSR.  
Biol.i sel'skhoz.nauki 10 no.8:3-12 Ag '57. (MIRA 10:10)  
(Heredity) (Poultry breeding)

KARAPETYAN, S.K.

USSR/General Biology - Individual Development.

B-4

Abs Jour : Ref Zhur - Biol., No 8, 1958, 33367

Author : Karapetyan, S.K.

Inst :

Title : Experimental Data on the Effect of Periodic Changes of Thermal Regimen on Hen Embryo Survival.  
(Eksperimentalnye dannye o vliyani periodicheskoi izmeneniya termicheskogo rezhima na vyzhivaenost embriona kur).

Orig Pub : Dokl. AN ArmSSR, 1957, 24, No 3, 141-144

Abstract : A study was conducted on the effect of periodic (alternate days), short-duration (for a period of 2 hours) heating (up to 37.5°) of eggs stored for 13 days before incubation at a temperature of 17-20°. The hatching of 3 groups of eggs was compared: I-- 450 control eggs, placed on the day of laying; II-- 420 eggs stored without periodic heating; and III-- 420 eggs stored with a

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Institut zhivotnovodstva Ministerstva sel'skogo khozyaystva Armyanskoy SSR  
Akademik Akademii nauk Armyanskoy SSR

KARAPETTYAN, S.K.; ARSHAKYAN, A.V.

Physiological effect of feeding green standing grass to laying  
poultry. Izv. AN Arm. SSR. Biol. i sel'khoz. nauki 11 no. 5:3-8  
My '58. (MIRA 11:7)  
(Poultry--Feeding and feeding stuffs)  
(Grasses)

KARAPETYAN, S.K.

Changes in the higher nervous activity of poultry caused by  
prolonged exposure to light. Izv. AN Arm. SSR. Biol. i sel'khoz.  
nauki 11 no. 11:3-15 N '58. (MIRA 11:12)

1. Institut fiziologii AN Arm SSR.  
(LIGHT--PHYSIOLOGICAL EFFECT) (POULTRY--PHYSIOLOGY)

KARAPETYAN, S.K., akademik

At the 11th World Poultry Congress; comments of a delegate.  
Agrobiologiya no.1:126-130 Ja-<sup>F</sup> '59. (MIRA 12:4)

1. AN Armyanskoy SSR.  
(Mexico(City)--Poultry--Congresses)

KARAPETYAN, S.K., akademik, delegat XI Vsemirnogo kongressa po ptitsevodstvu.

Physiological and nutritional problems at the 11th International  
Congress on Poultry Farming. Izv.AN Arm.SSR Biol.nauki 12  
no.5:93-98 My '59.  
(MIRA 12:9)

1. Akademiya nauk ArmSSR.  
(MEXICO (CITY)--POULTRY--CONGRESSES)

KARAPETIAN, S.K., akademik; VARTANYAN, V.A.

Making blood counts for birds, amphibians and reptiles. Dokl. AN  
Arm. SSR 29 no.2:93-96 '59.

(MIRA 12:11)

1. Institut fiziologii Akademii nauk Armyanskoy SSR. 2. AN Armyanskoy  
SSR (for Karapetian).

(BLOOD CELLS)

17(3), 30(1)

AUTHORS:

Karapetyan, S. K., Academician, AS ArmSSR, Mikayelyan, N. G. SOV/20-126-1-55/62

TITLE:

The Amino-acid Composition in Egg Proteins Under Different Conditions of Poultry-farming (Aminokislotnyy sostav yaichnykh belkov pri razlichnykh usloviyakh soderzhaniya ptits)

PERIODICAL:

Doklady Akademii nauk SSSR, 1959, Vol 126, Nr 1, pp 200-202 (USSR)

ABSTRACT:

The intensive cage-system in the rearing of laying hens applied to a great extent in the USSR as well as abroad, has several advantages compared to the usual pastural system. The question rises however, whether these conditions do not impair the quality of eggs, i.e. the molecular structure of the egg proteins. After many investigations (Refs 1-4) this question can be answered in the negative, though there is a lack of publications on the subject mentioned in the title. After a survey of the components of the white of egg, the yolk as well as of the methods for their determination the authors describe their own method: in order to avoid the possibility of making methodical mistakes, they extracted all components of the white of egg and examined them chromatographically. The protein com-

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The Amino-acid Composition in Egg Proteins Under Different Conditions of Poultry-farming

SOV/20-126-1-55/62

ponents of the yolk were separately extracted and examined. For the examination of the amino-acid composition, the one-dimensional declining variant was used. A mixture of n-butyl-alcohol, acetic acid and water served as solvent (4:1:5 according to reference 5). In the hydrolysate of the yolk proteins, 18 amino acids were found. The results of analysing the white of eggs layed by hens which were kept in cages and on pastures, are shown on table 2 and in figure 1. The chromatographic examinations show no difference in the composition of amino-acid, neither in the yolk nor in the white of eggs of the two mentioned groups of hens. Consequently it is clear that the keeping of hens in cages does not impair the amino-acid composition of egg proteins. There are 1 figure, 2 tables, and 10 references, 5 of which are Soviet.

ASSOCIATION: Institut fiziologii Akademii nauk ArmSSR (Institute of Physiology of the Academy of Sciences of the Armenian SSR)

SUBMITTED:  
Card 2/2

February 20, 1959

KYRITSYAN, Khoren Agaropovich<sup>1</sup> (1882-1956); KARAPETYAN, S.K., otv.  
red.; MURADKHANYAN, G., tekhn. red.

[Selected works] Izbrannye sochineniia. Erevan, Izd-vo Glav.  
upr. sel'khoz. nauki MSKh, 1960. 333 p. (MIRA 16:1)  
(Stock and stockbreeding)

KARAPETYAN, S.K., akademik (Yerevan)

Valuable studies on the inheritance of acquired characteristics  
("Inheritance by progeny of characteristics induced in parents by  
endogenous factors" by D.F.Pavlov. Reviewed by S.K.Karapetian).  
Agrobiologiya no.1:152-156 Ja-F '60. (MIRA 13:5)

1. Akademiya nauk Armyanskoy SSR.  
(Heredity) (Pavlov, D.F.)

KARAPETYAN, S.K., akad.; VARDANYAN, V.A.; BALASANYAN, R.G.

Effect of a single exposure to small and medium X-ray  
doses on the reproductive function of domestic fowl.  
Dokl.AN Arm.SSR 30 no.3:175-182 '60. (MIRA 13:8)

1. Institut fiziologii Akademii nauk Armyanskoy SSR.
2. Akademiya nauk Armyanskoy SSR (for Karapetyan).  
(Poultry) (X rays--Physiological effect)

KARAPETYAN, Saak Karapetovich; PAVLOV, Ye.F., otv.red.; SHTIBEN, R.A.,  
red.izd-va; KAPLANIAN, M.A., tekhn.red.

[Role of light in the physiological stimulation of the animal  
organism] Rol' sveta v fiziologicheskoi stimulatsii zhiivotnogo  
organizma. Yerevan, Izd-vo AN Armianskoi SSR, 1961. 131 p.  
(MIRA 15:4)

(Light—Physiological effect)  
(Poultry—Physiology)

KARAPETYAN, S.K., akademik; MIKAYELIAN, N.G.

Plasticity of conducting pathways of the spinal cord in birds with regard to neural regulation of their reproductive function. Dokl. AN SSSR 140 no.3:728-730 S '61. (MIRA 14:9)

1. AN Armyanskoy SS (for Karapetyan).  
(Ovaries--Innervation) (Spinal cord) (Birds--Anatomy)

KARAPETYAN, S.K.

Theoretical principles and method of developing the Erivan dual-purpose chicken strain. Izv. AN Arm. SSR. Biol. nauki 14 no.7: 3-13 J1 '61. (MIRA 14:9)

1. Institut fiziologii imeni akademika L.A.Orbeli, AN Armyanskoy SSR. (ARMENIA--POULTRY BREEDING)

KARAPETYAN, Saak Karapetovich, akad.; KUZANYAN, M., red.; CHANCHAPANYAN, E.,  
tekhn. red.

[Biological principles underlying the increase of productivity  
and ways for the intensification of poultry raising in the  
Armenian S.S.R.] Biologicheskie osnovy povysheniia produktiv-  
nosti i puti intensifikatsii ptitsevodstva v Armianskoi SSR,  
Erevan, Armsel'khozgiz, 1962. 405 p. (MIRA 16:4)

1. Akademiya nauk Armyanskoy SSR (for Karapetyan).  
(Armenia--Poultry)

KARAPETYAN, S.K.

Experimental data on the effect of changed light conditions on the metabolism in animal organisms. Agrobiologiya no.3:433-435 My-Je '62. (MIRA 15:10)

1. Institut fiziologii AN Armyanskoy SSR, Yerevan.  
(METABOLISM) (LIGHT—PHYSIOLOGICAL EFFECT)

KARAPETYAN, S.K.; ARSHAKYAN, A.V.

External inhibition of unconditioned reflexes of egg laying in poultry related to changes in a fixed environment. Izv. AN Arm. SSR. Biol. nauki 15 no;3:3-13 '62. (MIRA 15:4)

1. Institut fiziologii imeni akademika L.A.Orbely AN Armyanskoy SSR.

(EGGS---PRODUCTION)

KARAPETIAN, S.K.; ARUTYUNYAN, R.A.

Effect of surrounding thermal conditions on the daily temperature  
rhythm of the fowl body. Izv.AN Arm.SSR.Biol.nauki 15 no.11:3-  
10 N '62. (MIRA 15:12)

1. Institut fiziologii AN Armyanskoy SSR.  
(BODY TEMPERATURE--REGULATION)  
(POULTRY--PHYSIOLOGY)

KARAPETYAN, S.K., akademik

Stimulation by light of metabolic processes in the animal organism. Dokl. AN Arm. SSR 34 no.3:135-139 '62. (MIRA 15:5)

1. Institut fiziologii AN Armyanskoy SSR. Akademiya nauk Armyanskoy SSR.

(METABOLISM)

(LIGHT—PHYSIOLOGICAL EFFECT)



KARAPETYAN<sup>†</sup>, S.K.

Outstanding Soviet physiologist. Izv. AN Arm. SSR. Biol.  
nauki lú no.7:3-10 JI '63. (MIRA 16:11)

KARAPETYAN, S.K.; KOCHARYAN, R.G.

Stimulation of the productivity of poultry by ultraviolet  
irradiation. Izv. AN Arm. SSR. biol. nauki 16 no.8:29-36  
Ag'63 (MIRA 17:4)

1. Institut fiziologii imeni L.A. Orbeli AN Armyanskoy SSR.

KARAPETYAN, S.K.; VARTANYAN, V.A.; BALASANYAN, R.G.

Improvement of the method of determining car. tone in plants and  
feeds. Izv. AN Arm. SSR. Biol. nauki 16 no.9:3-6 S'63  
(MIRA 17:7)

1. Institut fiziologii imeni akademika L.A. Orbeli AN Armyan-  
skoy SSR.

KARAPET'YAN, S.K., akademik; NAZARYAN, M.B.

Some biochemical displacements in the generative and  
endocrine organs occurring during removal of the cerebrum.  
Dokl. AN Arm. SSR 36 no.4:237-242 '63. (MIRA 16:11)

1. Institut fiziologii imeni akademika L.A. Orbeli AN  
Armyanskoy SSR. 2. Akademiya nauk Armyanskoy SSR (for  
Karapetyan).

*[Handwritten mark]*

KARAPETYAN, S.K., akademik; ARSHAKYAN, A.V.

Change in the conditioned response activity of domestic birds due to a disruption of the established stereotype of maintenance. Dokl. AN SSSR 153 no.1:237-239 N '63.

(MIRA 17:1)

1. Institut fiziologii im. L.A. Orbeli AN ArmSSR. 2. AN ArmSSR (for Karapetyan).

ALEKSANYAN, A.M., prof., otv. red.[deceased]; BAKLAVADZHYAN, O.G., red.; AYRAPETYAN, A.A., red.; BAKUNTS, A.A., red.; GRIGORYAN, G.Ye., red.; KARAPETYAN, S.K., red.; MATINYAN, L.A., red.; URGANDZHYAN, T.G., red.; FANARDZHYAN, V.V., red.; CHILINGARYAN, A.M., red.

[Problems of the physiology of the vegetative nervous system and cerebellum; collection of reports] Voprosy fiziologii vegetativnoi nervnoi sistemy i mozzhechka; sbornik dokladov. Erevan, Izd-vo AN Arm.SSR, 1964. 610 p. (MIRA 17:8)

1. Vsesoyuznoye soveshchaniye po voprosam fiziologii vegetativnoy nervnoy sistemy i mozzhechka. 1st, Erevan, 1961.
2. Chlen-korrespondent AN Arm.SSR i direktor Instituta fiziologii im. L.A.Orbeli AN Arm.SSR (for Aleks nyan).
3. Institut fiziologii im. L.A.Orbeli AN Arm.SSR, Erevan (for all except Karapetyan, Matinyan).

KARAPETYAN, S.K.; MIKAYELIAN, N.G.

Some results of research in the field of the physiology of  
domestic animals in Soviet Armenia. Iz ist.est.i tekhn. 2:168  
'62. (MIRA 18:4)

KARAPETYAN, S.K., akademik; VARDANYAN, V.A.

Stimulating effect of certain doses of ionizing radiation on the ovogenous function of bird ovary. Dokl. AN SSSR 163 no.3:745-746 J1 '65. (MIRA 18:7)

1. Institut fiziologii im. I.A.Orbeli AN ArmSSR. 2. AN ArmSSR (for Karapetyan).

Karapetyan, S.S.

Product of the polymerization of the monomer  
with the addition of the initiator  
chain length increased and the molecular weight  
increased. The polymerization of the monomer  
with the addition of the initiator  
chain length increased and the molecular weight  
increased. The polymerization of the monomer  
with the addition of the initiator

Sov. Phys. Chem., 45 USSR

AUTHOR: Karapetyan, S.S. SOV/63-5-6-34/43

TITLE: Synthesis of Polyamides of the Aliphatic and Aromatic Series  
(Sintez poliamidov alifaticheskogo o aromaticeskogo ryadov)

PERIODICAL: Khimicheskaya nauka i promyshlennost', 1958, Vol III, Nr 6,  
pp 832-833 (USSR)

ABSTRACT: Polyamides have been obtained on the basis of ethylene-diamin,  
hexamethylene-diamin and  $\mu$ -phenylene-diamin with various di-  
carbonic acids of the aliphatic and aromatic series. The poly-  
amides and their characteristics are shown in Table 2.  
There are 2 tables, 1 diagram and 2 Soviet references.

ASSOCIATION: Institut fizicheskoy khimii Akademii nauk SSSR (Institute of  
Physical Chemistry of the USSR Academy of Sciences)

SUBMITTED: March 10, 1958

Card 1/1

**KLIDZHYAN, N.A. ; KARAPETYAN, S.S.**

New double-line conveyer. Kosh.-obuv.prom. 2 no.4;28-30 Ap  
'60. (MIRA 13:9)

1. Glavnyy inzhener Tbilisskoy obuvnoy fabriki No.1 (for Klidzhyan).
2. Starshiy instruktor Tbilisskoy obuvnoy fabriki No.1 (for Karapetyan).

(Conveying machinery)

L 11355-65 EWT(m)/EPT(c)/EPR/EWP(J)/I PC-4/PT-4/PS-4/PA-4 ASD(m)-3/RPL  
 ACCESSION NR: AP4045418 WW/RN S/0190/54/006/009/1550/1554

AUTHOR: Karapetyan, S. S. ; Yakubovich, A. Ya. ; Knunyants, I. L.

TITLE: Polyesters and mixed polyesters of 2,2-bis-(4-hydroxyphenyl)-hexafluoropropane and aromatic dicarboxylic acids

SOURCE: Vysokomolekululyarnyye soyedineniya, v. 6, no. 9, 1964, 1550-1554

TOPIC TAGS: polyester, mixed polyester, copolymerization, dicarboxylic acid, aromatic dicarboxylic acid, hydroxyphenylhexafluoropropane, polyester mechanical property

ABSTRACT: The homo- or mixed esters of 2,2-bis-(4-hydroxyphenyl) hexafluoropropane with terephthalic acid (softening temp. 261C, destruction temp. 374C; impact toughness 10.8 kg x cm/cm<sup>2</sup>), 2,2-bis-(4-hydroxyphenyl) propane and 2,2-bis-(4-hydroxyphenyl) hexafluoropropane with terephthalic acid (soft. temp. 238-241C, destr. temp. 375C, impact toughness 14.2), 2,2-bis-(4-hydroxyphenyl)hexafluoropropane with isophthalic and terephthalic acids (soft. temp 220-225C, destr. temp. 378C, impact toughness 7.1), both propanes with both acids (soft. temp. 181C, destr. temp. 377C, impact toughness 4.8), 2,2-bis-(4-hydroxyphenyl)propane with terephthalic acid (soft. temp. 225-226C, destr. temps. 370C, impact toughness 12.8), and 2,2-bis-(4-hydroxyphenyl)propane with both

Card 1/2

L 11355-65

ACCESSION NR: AP4045418

acids (soft. temp. 206-209C, destr. temp. 377C, impact toughness >50) were prepared by reacting equimolar aqueous solutions of the diphenols and NaOH with solutions of the dichloroanhydrides of the acids in xylene, toluene or chloroform for 20 min. at room temperature. The esters are white powders which form amorphous light-to-dark brown transparent solids after fusing, pressing or casting under pressure. The softening temperature, determined with the use of an IFP device at 1 kG/mm<sup>2</sup> was found to rise to a maximum of 261C with an increase in molecular weight to  $3 \times 10^4$  and beyond. Orig. art. has: 3 figures and 1 table.

ASSOCIATION: None

SUBMITTED: 13Jul68

ENCL: 00

SUB CODE: OC, MT

NO REF SOV: 009

OTHER: 007

Card 2/2

KARAPETIAN, G. Ye.

"Conference Theta of Popov." Sub 20 Jan 51, Sci Res Inst of Mechanics and Mathematics, Moscow of Lenin State University N. V. Lomonosov.

Dissertations presented for science and engineering degrees in Moscow during 1951.

SO: Sum. No. 400, 2 Mar 55.

AUTHOR: Karapteyan, S. Ye. (Yerevan). 195  
 TITLE: A closed cycle of four congruences. (Zamknuty tsikl chetyrekh kongruentsiy).  
 PERIODICAL: "Matematicheskiy Sbornik" (Mathematical Symposium), 1957, Vol.41(83), No.2, pp.177-194 (U.S.S.R.)

ABSTRACT:

In a previous article (3) the author investigated the following property of a congruence  $\Theta$ . Four auxiliary congruences of this congruence form a closed cycle in which a ray of each congruence intersects the corresponding ray of the following congruence at its focus. In this paper the most general closed cycle of four congruences having this property is discussed. After proving the existence of the closed cycle, the first part is mainly concerned with the parabolic cycle. The second part discusses a particular example in which the diagonal of a skew quadrilateral, which describes the cycle by its sides, has foci at the vertices of the quadrilateral. In the third part is discussed the case where both opposite members of the congruence form pairs. The ray  $A_1A_2$  describes a parabolic congruence if it is a tangent to one family of asymptotic lines of the surface ( $A_1$ ). A parabolic cycle is a closed cycle, in which each congruence is a parabolic congruence. It is proved that if in a closed parabolic cycle two congruences belong to one complex, and all congruences

A closed cycle of four congruences. (Cont.) 195  
of the second class to the second complex. Only those  
congruences described by the diagonals of the pairs T  
belong to both complexes at the same time. There  
are three references, all Russian.

3. S. Ye. Karapetyan, Popov's congruence  $\Theta$ .  
Sbornik nauchnykh trudov Arm. ped. in-ta im. Kh.  
Abovyan No.5, 1955.

Submitted 6/1/56.

KARAPETYAN, S. Ye

AUTHOR: KARAPETYAN, S. Ye. 20-2-4/50  
TITLE: The Lie Surface of Second Order for Ruled Surfaces of a  
Congruence (Poverkhnost' vtorogo poryadka Li dlya lineychat-  
ykh poverkhnostey kongruentsii)  
PERIODICAL: Doklady Akademii Nauk<sup>SSSR</sup>, 1957, Vol.117, Nr 2, pp.177-179 (USSR)  
ABSTRACT: Finikov [Ref.1] used the contact surface of second order  
introduced by Sophus Lie for the construction of the normal  
tetrahedron of a surface. In the present paper the author  
succeeds in establishing an equation of the Lie contact sur-  
face of second order for the ruled surfaces of a congruence  
which is invariant with respect to all tetrahedra of first  
order. Some questions connected with this special Lie contact  
surface are discussed. The author applies Cartan's methods  
(external forms). 3 Soviet references are quoted.  
ASSOCIATION: Erivan Armenian State Pedagogical Institute imeni Kh.Abovyan  
(Yerevanskiy Armiyanskiy gosudarstvennyy pedagogicheskiy insti-  
tut imeni Kh.Abovyana)  
PRESENTED: By P.S. Aleksandrov, Academician, 28 May, 1957  
SUBMITTED: 30 January, 1957  
AVAILABLE: Library of Congress

Card 1/1